

AMENDMENTS TO THE CLAIMS

Please amend the claims as follows:

Listing of Claims:

1. (Currently amended): Process for the purification of fermentatively produced riboflavin that has at least one impurity which is a DNA comprising the steps of:

(a) precipitating a first crystalline form of fermentatively produced riboflavin,
(b) isolating the first crystalline form of riboflavin,
(c) transforming the first crystalline form of riboflavin into a second crystalline form of riboflavin under conditions that decompose diluted DNA, and

(d) isolating the second crystalline form of riboflavin,
wherein the first crystalline form of riboflavin is a riboflavin dihydrate and the amount of DNA in the riboflavin crystals of step (d) is below about 0.2 parts per billion.

2. (Previously presented): Process according to claim 1, characterized in that after step (b) the process further comprises the step of pasteurizing the first crystalline form of riboflavin before transforming the first crystalline form in step (c).

3-4. (Canceled).

5. (Previously presented): Process according to claim 1, characterized in that the second crystalline form of riboflavin is riboflavin anhydrate I.

6. (Previously presented): Process according to claim 1, characterized in that in step (c) the conditions that decompose diluted DNA are acidic or basic conditions.

7. (Original): Process according to claim 6, characterized in that the acidic conditions are caused by an acid having a concentration of between 10^{-4} and 10^{-1} mol⁻¹.

8. (Previously presented): Process according to claim 1, characterized in that in step (a) the precipitation of the first crystalline form of riboflavin is induced by addition of seed crystals to the fermentatively produced riboflavin.

9. (Original): Process according to claim 8, characterized in that the seed crystals comprise seed crystals of a riboflavin hydrate.

10. (Original): Process according to claim 9, characterized in that the seed crystals of the riboflavin hydrate are seed crystals of riboflavin dihydrate or seed crystals of riboflavin monohydrate.

11. (Previously presented): Process according to claim 1, characterized in that step (c) is performed at a temperature of between 60°C and 75°C using

(i) a mineral acid,

(ii) a base, or

(iii) an organic acid.

12. (Previously presented): Process according to claim 1, characterized in that in step (c) a slurry comprising the first crystalline form of riboflavin is pumped continuously through a heat exchanger and further pumped through a tube equipped with a jacket heating and either a multistage stirring system or static mixers.

13-16. (Canceled).

17. (Previously presented): Process according to claim 2, characterized in that in step (c) the conditions that decompose diluted DNA are acidic or basic conditions.

18-21. (Canceled).

22. (Provisionally withdrawn-previously presented): A process for the purification of riboflavin comprising the steps of:

- (a) precipitating a first crystalline form of riboflavin,
- (b) isolating the first crystalline form of riboflavin,
- (c) transforming the first crystalline form of riboflavin into a second crystalline form of riboflavin under conditions that decompose diluted DNA, wherein the transforming is performed at a temperature of between 60°C and 75°C using (i) a mineral acid, (ii) a base, or (iii) an organic acid, and
- (d) isolating the second crystalline form of riboflavin, provided that at ambient temperature the first crystalline form of riboflavin is thermodynamically less stable than the second crystalline form of riboflavin.

23. (Provisionally withdrawn-previously presented): The process according to claim 22, characterized in that the amount of DNA in the riboflavin crystals of step (d) is below about 0.2 parts per billion.

24. (Provisionally withdrawn-previously presented): The process according to claim 22, characterized in that the first crystalline form of riboflavin is riboflavin dihydrate.

25. (Provisionally withdrawn-previously presented): The process according to claim 22, characterized in that the riboflavin crystals of the second crystalline form of riboflavin of step (d) are riboflavin anhydrate I crystals.

26. (Provisionally withdrawn-previously presented): The process according to claim 22, characterized in that in step (a) the precipitation of the first crystalline form of riboflavin is induced by addition of seed crystals.

27. (Provisionally withdrawn-previously presented): The process according to claim 26, characterized in that the seed crystals are seed crystals of riboflavin dihydrate or seed crystals of riboflavin monohydrate.

28. (Provisionally withdrawn-previously presented): The process according to claim 22, characterized in that after step (b) the process further comprises the step of pasteurizing the first crystalline form of riboflavin before transforming the first crystalline form in step (c).

29. (Provisionally withdrawn-previously presented): The process according to claim 22, characterized in that step (c) is performed at a temperature of between 60°C and 75°C using:

- (i) a mineral acid,
- (ii) a base, or
- (iii) an organic acid.

30. (Provisionally withdrawn-previously presented): The process according to claim 22, characterized in that in step (c) a slurry comprising the first crystalline form of riboflavin is pumped continuously through a heat exchanger and further pumped through a tube equipped with a jacket heating and either a multistage stirring system or static mixers.

31. (Provisionally withdrawn-previously presented): A process for the purification of riboflavin comprising the steps of:

- (a) precipitating a first crystalline form of riboflavin,
- (b) isolating the first crystalline form of riboflavin,

(c) transforming the first crystalline form of riboflavin into a second crystalline form of riboflavin under conditions that decompose diluted DNA, wherein a slurry comprising the first crystalline form of riboflavin is pumped continuously through a heat exchanger and further pumped through a tube equipped with a jacket heating and either a multistage stirring system or static mixers, and

(d) isolating the second crystalline form of riboflavin, provided that at ambient temperature the first crystalline form of riboflavin is thermodynamically less stable than the second crystalline form of riboflavin.

32. (Provisionally withdrawn-previously presented): A process for decreasing the DNA content of riboflavin crystals comprising the steps of:

(a) fermentatively producing riboflavin in a fermentation broth,

(b) precipitating and isolating riboflavin crystals of a first crystalline form of riboflavin from the fermentation broth,

(c) transforming the crystals of step (b) into a second crystalline form of riboflavin which is a thermodynamically more stable form of riboflavin than the first crystalline form, and

(d) isolating the crystals of step (c).

33. (Provisionally withdrawn-previously presented): The process according to claim 32, characterized in that the amount of DNA in the riboflavin crystals of step (d) is below about 0.2 parts per billion.

34. (Provisionally withdrawn-previously presented): The process according to claim 32, characterized in that the first crystalline form of riboflavin is riboflavin dihydrate.

35. (Provisionally withdrawn-previously presented): The process according to claim 32, characterized in that the riboflavin crystals of step (d) are riboflavin anhydrate I crystals.

36. (Provisionally withdrawn-previously presented): The process according to claim 32, characterized in that in step (b) the precipitation of the first crystalline form of riboflavin is induced by addition of seed crystals to the fermentation broth.

37. (Provisionally withdrawn-previously presented): The process according to claim 36, characterized in that the seed crystals are seed crystals of riboflavin dihydrate or seed crystals of riboflavin monohydrate.

38. (Provisionally withdrawn-previously presented): The process according to claim 32, characterized in that after step (b) the process further comprises the step of pasteurizing the first crystalline form of riboflavin before transforming the first crystalline form in step (c).

39. (Provisionally withdrawn-previously presented): The process according to claim 32, characterized in that step (c) is performed at a temperature of between 60°C and 75°C using:

- (i) a mineral acid,
- (ii) a base, or
- (iii) an organic,acid.

40. (Provisionally withdrawn-previously presented): The process according to claim 32, characterized in that in step (c) a slurry comprising the first crystalline form of riboflavin is pumped continuously through a heat exchanger and further pumped through a tube equipped with a jacket heating and either a multistage stirring system or static mixers.

41. (Provisionally withdrawn-previously presented): A process for removal of DNA from fermentatively produced riboflavin crystals comprising transforming a first crystalline' form of

riboflavin obtained from the fermentatively produced crystals into a second crystalline form of riboflavin.